Cheap Fish for Millions---What Uncle Sam Is Doing to Increase Food Supply---Government Hatcheries and Their Billions of Eggs

ALASKAN HALIBUT, WHICH WERE CAUGHT IN TWENTY MINUTES.

RAISING BROOK TROUT IN THE ROCKIES.

IN A GOVERNMENT HATCHERY.

SPECIAL CARS FOR HATCHING AND CARRYING FISH.

BY FRANK G. CARPENTER.

Washington, D. C.

ARE you disgusted with the high price of meats?

Do your steaks, chops and roasts cost more than you can afford?

Are you growing tired of pouring your money into the pockets of our great butcher barons?

If so, why don't you eat fish? It will make more brain and just as good muscle. It will digest quite as easily, and, taken fresh from the waters, will make you go singing through life. The Japanese nation, one of the happiest on earth, is composed of fish eaters. The Chinese, one of the strongest and thriftiest, lives largely upon the same food, and all over Europe nearly every farmer has his own private fish pond.

There is no land that will rear fish better than the United States, and there is no sort of animal life which will breed so rapidly nor produce so much. Man has but one, two or at the utmost three young at a time, and the same is true of cattle and horses. Some breeds of sheep produce twins, and the hog often has ten or twelve pigs at a litter. The fish multiplies by the thousands. The Pacific salmon has on the average five thousand eggs, the shad thirty thousand and the cod is said to drop as many as two millions. Indeed, it has been estimated that if all the cod eggs laid in one year should produce female fish, and they in turn lay similar eggs, that within a few years the whole world would be covered, and we could have a tower of eggs reaching from here to the moon.

All this is preliminary to my story of the great work which our Uncle Sam, Patriarch, has under way to increase our fish supply.

Planting Fish by the Billions.

During the past week I have been talking with the men who run the fish commission. They have a big office here in Washington, and connected with it are fish hatcheries scattered all over the Union. The government now hatches fish as farmers hatch chickens and its output of the finny tribe last year was more than 4,000 million. Of these there were something like 200,000,000 salmon, over 400,000,000 whitefish, 600,000,000 or 700,000,000 pike perch and almost 200,000,000 cod. The white perch, numbered 300,000,000, the flat fish 800,000,000 and the lobsters almost 200,000,000. In addition to this there was an enormous planting of oysters and a distribution of food fishes so numerous in variety that I cannot mention them all. Some of these fish were taken from the Atlantic to the Pacific, and some were brought from the great Northwest to Maine and other States. There are now large government hatcheries in twenty-seven different States, and the fish reared are increasing by the hundreds of millions per annum. Since the establishment of the bureau, which was about forty years ago, more than 28,000 million eggs have been artificially produced, and of these about half have been the output of the last six years. I am told also that this work is at its beginning, and that if our waters are properly stocked and cared for we may yet shake our fists in the faces of the packing interests and live upon fish.

New Fish Laws Needed.

The next Congress will be asked to make new laws for the protection of our fish in the streams and along the coasts, as well as to the proper management of our oyster farms. During my stay in the offices of the fish commission I had a chat with Dr. Hugh M. Smith, the deputy commissioner. Dr. Smith is a high authority on all such matters. He has traveled widely over the world looking up new fish and fish products, in order that they may be transplanted to the United States.

He tells me that the States now have the right to control the protection and propagation of the fish within their boundaries. He thinks this should be given over to the national government, and says that many of the States are allowing their fisheries to go to ruin. Take the shad, which gives us tens of millions of pounds of the most delicious food every year. It is the leading fish of our eastern seaboard, and it runs up the coastal streams of the Atlantic as the salmon does up the Pacific. The government has been doing what it can to plant shad, and it has placed something like 3,000 million of the young in the various streams. All these fish were reared from eggs taken from fish caught for the markets and the flesh of the fish was eaten. As it is now in some of the States, the shad are taken when they first enter the streams. The eggs are not ripe at that time and are useless to the hatcheries. The result is that the spawntakers must wait for the run farther up the stream, and millions are lost. In North Carolina the fishermen so control the streams that the greater part of the shad cannot go up the rivers to spawn. This was done to such an extent that the supply of North Carolina shad was greatly reduced. The output fell to 5,000,000 when the officers of the Bureau of Fisheries went to the North Carolina legislature and secured certain protective laws. As a result, this last year the catch has been fifteen times as great as it was before those laws were passed, and the shad are rapidly growing in number.

The Potomac shad are almost unprotected. There are fish nets running from Washington all the way down to Chesapeake Bay. The fishermen of Virginia run their nets as far as they can out into the middle of the Potomac. The Maryland men do the same from the opposite bank, and in the middle of the stream nets are so stretched that they catch the shad which swim along the bottom. The result is that the Potomac River, which once had its shad by the tens of millions, had practically none this year, and this fish is likely to be exterminated as far as it is concerned. Dr. Smith says that if a law were enacted keeping a strip one-third the width of the river free of nets enough shad would go up that strip to give us a plentiful supply. It is the same in many other parts of the United States.

Fish Ponds for the Farmers.

The day will come when every farmer who has a pond or stream on his place will raise his own fish, and at the same time produce fish for the markets. Dr. Smith tells me that this is the case in many of the countries of Europe, and that it is so in Germany irrespective of the fact whether the farmer lives in the interior or along the sea. From Germany the fish commission has imported carp, and these are now being raised here in such quantities that they sell for more than a million dollars a year. In 1908 43,000,000 pounds of them were caught in our public waters, and in addition a vast number were taken from private streams and ponds.

Big Money in Oysters.

Some of the farmers of the South are now making money out of oysters. This is so all along the Atlantic coast, and especially on the Louisiana shores of the Gulf of Mexico. Uncle Sam's fishermen have explored those waters and shown the men how to smooth over the bed of the Gulf in various places and cover it with such material that the oysters cling to.

Dr. Smith tells me that upon many of these beds there had been no oysters before, but that a year or two after their making they were producing them at the rate of about 2,000 bushels to the acre. Those oysters sold for 60 cents a bushel, making the shore waters yield a product worth $1,200 per acre, many times the money product of the best cotton or rice fields in any part of the South.

Oyster planting is now done to such an extent that the greater part of our oyster supply comes from oyster farms. The bivalves grow in warm water as well as in cold, and along the Gulf of Mexico they are eaten all the year around. Farther North they are not so good in July and August.

Japanese Oysters for San Francisco.

The fish commission has tried the experiment of transplanting the Atlantic oysters on the Pacific coast. They are found to fatten and grow, but they do not have any young, the water being too cold for them to breed. These oysters retain the flavor of the Eastern oysters and bring high prices in the markets.

A number of companies are now engaged in bringing one and two-year-old oysters from the Atlantic, and transplanting them in San Francisco Bay. They grow rapidly and are ready for market in one or two years after planting. These oysters are taken West in refrigerator cars holding about two hundred barrels each. They are planted inside stockades which keep out the poachers and certain fish enemies of the oyster, and the plantations are also overlooked by watch houses on piles.

The ordinary oyster of our Northern Pacific is small and it has a coppery taste. A better oyster is grown in Japan, and especially in the cold waters along Hokkaido, which is the northern island of that country. The government is now importing some of these oysters, which will be planted along Puget Sound and in San Francisco Bay. They are accustomed to a colder water than that of our Atlantic oysters and it is believed that they will thrive.

Our Great Fishing Grounds.

During my talk with Dr. Smith I asked him where were the chief fishing grounds of the United States. He replied:

"Roughly speaking, there are three. First we have the coasts and the estuaries of the rivers; second, the interior streams and lakes, and third, the high seas. One of our greatest fishing grounds is the banks of Newfoundland and another is the high seas of the Alaskan waters. Both of these places are subject to somewhat the same conditions. They have food for fishes brought in by great ocean currents. On the banks of Newfoundland this food comes largely from the Gulf Stream and a cold Arctic current, and in Alaska it comes from an Arctic current and other currents. The result is that the fish are found there in great numbers. They move over the banks seeking the best feeding grounds. It is strange to think of fish out at pasture, but that is the condition on these banks.

"The Alaskan banks are about 120 miles or more long. They have considerable width and are inhabited by millions of cod and halibut. I have a photograph of a catch of cod and halibut which our men took in twenty minutes on the Alaskan banks. These fish are so plentiful that the catching of them will some day be a very great industry."

Our Alaskan Fisheries.

"Give me some idea of the Alaskan fisheries?"

"They are of enormous value. Including the seal we have already gotten about $180,000,000 out of Alaskan fish products. The salmon has netted over $100,000,000, which is more than fourteen times what we paid for the territory. We are now receiving upward of $10,000,000 a year out of Alaskan salmon alone.

"In addition to that there is the Alaskan herring," Dr. Smith continued. "There are so many of them that they are caught and sold as fertilizer. They should supply the United States and take the place of those which we are importing.

"The cod and halibut are likely to yield a great deal. The halibut is now being caught in Alaska and taken down to Seattle and Vancouver and shipped to the East. They are as good as the Atlantic halibut, and they are so abundant that it is possible to carry them this long distance and sell them at a lower cost in the markets of Boston. When the Grand Trunk Pacific Railway is completed these fish will go to Prince Rupert and thence to all parts of the United States and Canada."

"Are the Alaskan fisheries well managed?"

"Yes; they are under the United States government and the fish commission controls the planting and catching. As a result the fisheries are being preserved, and they will give us salmon for al ltime to come. We are now regulating the methods of catching and marketing and have our agents on the ground to see that our regulations are respected. We require license taxes, but omit them upon all fisheries or fishing companies which return 1,000 young salmon to the streams for every ten cases of salmon they can. Some of the canning interests have private hatcheries and are planting millions of young fish. The government has its hatcheries. There is one at Yes Bay which during the past two years has let free 61,000,000 salmon."

"Are you planting new varieties of fish in different parts of the United States?"

"Yes, we have imported fish of various kinds, and some have proved valuable. I have already spoken of the carp. This was brought in from Germany. It is an excellent fish for private culture and home consumption, and the carp ponds are increasing very rapidly.

"We have also brought in a number of European trout. Moreover, we are carrying fish from one part of the United States to another. For instance, the shad is now one of the most abundant food fishes of California. It can be found from Los Angeles to Alaska, and it is about as common on our Pacific coast as on the Atlantic. This comes from shad which have been taken from the Atlantic and planted there. The total cost of the experiment was something like $4,000, and at the present date the shad taken out and marketed in that region runs high into the millions of hands. It has netted the fishermen over a third of a million dollars, which is a big dividend on a four-thousand-dollar investment.

"Another fish which we have sent West is the striped bass, which we planted first in San Francisco Bay. We took less than 500 from New Jersey, and from them the Pacific coast has been populated. The bass has become the leading game fish of California, and it can be bought at a lower price in San Francisco than in New York. The cost of transplanting it was less than a thousand dollars, and the value of the catch already sold has been more than a million dollars. Uncle Sam threw $1,000 into the water, and lo! $1,000,000 has come back. It beats the bread of the Scriptures.

"We are also sending Western fish to the East. We have taken the rainbow trout and distributed it throughout the different States and Territories, and we are now trying to transplant Pacific salmon. It grows well and thrives in the lakes, but whether it will breed remains to be seen."

The Great Lakes.

"How about the fish of the Great Lakes?"

"They are valuable, but we have a great deal of trouble in controlling the industry, because we have no national or international laws regarding it. Each State does as it pleases, and the Canadians do as they please. The result is that there is a great destruction of fish, and especially of the whitefish and other valuable varieties. Nevertheless we are annually getting 185,000,000 pounds of fish from those lakes and our interior waters, and the greater part of this comes from the lakes. We are doing what we can to increase the lake supply. We have one station on Lake Erie where, in 1907, our collections of whitefish eggs reached a total of 336,000,000. We bought those eggs from the fishermen for the most part and gathered the rest ourselves. We have a number of such stations on the lakes and also well equipped hatcheries.

"In the same way we are collecting the eggs of the pike, perch and lake trout, and are doing much to improve the supply of these and other valuable fishes."

How Fish Are Distributed.

"How is it possible to carry fish over the country so that they will keep alive and grow when planted?"

"We do that in various ways. We have special cars, each of which is walled with twenty or more large water tanks, in which the fish are carried. There are also compartments which hold more than a thousand gallons of reserve water. We have a boiler room on such a car, and a plant to pump water and air into the tanks. There are also sleeping places, and kitchen and a pantry for the men. These cars may be attached to a regular train and dropped off as needed. In sending small shipments we use ten-gallon cans, which are carried in baggage cars. The cans are handled by our own messengers. In some years our cars and messengers travel over 300,000 miles in distributing young fish."